

detecting the communication relayed via at least one of the elements by the increase of time delay compared to the time delay of mobile stations communicating directly with the base station.

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22. A method according to claim 21, further comprising the step of:
identifying the communication relaying elements on the ground of communication time delays.

23. A method according to claim 21, wherein the timing advance value corresponding to the said time delay is calculated.

24. A method according to claim 23, wherein the communications with timing advance values greater than some predetermined value are determined to be relayed via at least one of the said elements.

25. A method according to claim 24, wherein the said predetermined value is zero.

26. A method according to claim 21, wherein the mobile communication network is a GSM network.

27. A method according to claim 21, further comprising the step of:
sending an event notice to a network management system, when a presence of at least one of said elements is detected for the first time.

28. A method according to claim 21, wherein the time delay is monitored by a base transceiver station (BTS).

29. A method according to claim 21, wherein the time delay is monitored by a base station controller (BSC).

30. A method according to claim 21, further comprising the step of:
monitoring the communication relayed via at least one of said elements to determine various parameters giving information about the functioning of the network and said elements.

31. A method according to claim 21, wherein at least one of said elements is a radio repeater.

32. A method according to claim 21, wherein at least one of said elements is an optical tunnelling configuration.

33. A system for detecting network elements relaying communications between a base transceiver station and a mobile station in cellular communication network, where time delays between base transceiver stations and mobile stations are monitored, the system comprising:

means for detecting communication relayed via at least one of the elements by the increase of time delay compared to the time delays of mobile stations communicating directly with the base transceiver station.

34. A system according to claim 33, the system further comprising means for identifying communication relaying elements on the grounds of the communication time delays.